REMARKS

Applicants' attorney thanks the Examiner for his comments. Claim 1, the only independent claim, has been further amended to indicate that the final step of bonding the crimped fiber is performed using a pattern of point bonds covering not more than 25% of an area of the nonwoven web. This amendment is supported on page 19, lines 10-21. Claims 2 and 4 have been canceled. Claims 40 and 41 have been amended in a manner consistent with Claim 1. Claim 59 has been amended in a manner consistent with Claim 58. Claims 60-63 have been canceled.

The combination of steps recited in Claim 1 yields a nonwoven fabric having maximum crimping and loft. Throughout the process crimping is maximized and bonding is minimized to promote and maintain the high crimping and loft.

a) Claim Rejections Based On 35 U.S.C. § 112

The rejection of Claims 60-63 under 35 U.S.C. § 112, first paragraph, is respectfully traversed. In order to simplify the prosecution, these claims have been canceled.

The rejection of Claim 59 under 35 U.S.C. § 112, second paragraph, is respectfully traversed. Claim 59 has been amended to replace "web side formation index" with "wire side formation index." The phrase "wire side formation index" has antecedent basis in Claim 58.

b) Claim Rejections Based on Polanco

The rejection of Claims 1, 7 and 58-63 under 35 U.S.C. § 102(e) as anticipated by U.S. Publication 2003/0118816 ("Polanco") is respectfully traversed. The rejection of Claims 59-63 under 35 U.S.C. § 103(a) as obvious over Polanco is respectfully traversed.

As to the rejection based on 35 U.S.C. § 102(e), Polanco does not disclose a final step of bonding the already crimped fibers of high loft, low density nonwoven web using a pattern of point bonds covering not more than 25% of an area of the nonwoven web. Accordingly, this rejection should be withdrawn.

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As to the rejection based on 35 U.S.C. § 103(a)/§ 102(e), Polanco is not available as prior art because both the reference and the instant application have been assigned to the same entity. See 35 U.S.C. § 103(c). Polanco was assigned to Kimberly-Clark Worldwide, Inc. via an Assignment recorded at Reel No. 012817, Frame No. 0703. The instant application was assigned to Kimberly-Clark Worldwide, Inc. via an Assignment recorded at Reel No. 0155533, Fame No. 0945. Accordingly, this rejection should be withdrawn.

c) Claim Rejection Based On Terakawa In View Of WO 00/66057 And Varona

The rejection of Claims 1, 7-8, 14-15, 17-18, 20, 58-63 and 68-69 under 35 U.S.C. § 103(a) as obvious over U.S. Patent 5,302,220 ("Terakawa") in view of WO 00/66057 and U.S. Patent 5,679,042 ("Varona") is respectfully traversed. Terakawa discloses a process in which fibers are heat treated to develop crimps and inter-fiber bonding at the same time and in each of two stages (Col. 3, lines 4-16 and 29-37). There is no separation of crimping and bonding steps that would permit the fibers to become fully crimped before they are bonded together. Because some crimping and bonding are performed in a first stage, and further crimping and bonding are performed in a second stage, the crimping would be hindered somewhat by the bonding and would not be maximized.

Moreover, Terakawa does not disclose ultimately bonding the crimped fibers using a pattern of point bonds covering not more than 25% of an area of the nonwoven web. As explained in Applicants' specification, the point bonding is desirably achieved using a calender bonding process (page 19, lines 10-21). Terakawa teaches away from using calender bonding, and alleges that it damages the bulkiness of the nonwoven fabric (Col. 3, lines 33-37). A person skilled in the art would not be motivated by Terakawa to employ a point bonding process such as calender bonding.

The Examiner alleges that the bonding process of Terakawa, which uses hot air, is a point bonding process. However, Applicants' claims require point pointing only after the fibers are fully crimped. Claim 1 states that the steps are performed "in order." The hot air bonding of Terakawa, which is performed simultaneously with crimping, is not limited to a bond area of 25% or less and would tend to impede crimping.

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WO 00/66057 does not fill the voids in the disclosure of Terakawa. This reference does not disclose a crimping process. Instead, the disclosed process achieves Z-directional orientation or pleats in a finished nonwoven fabric by passing the fabric between nip rolls having successively slower speeds. The resulting web is structurally different from a nonwoven web whose fibers are individually crimped.

The pleated nonwoven web may be stabilized by subsequent heat bonding as described on page 9, lines 4-10. However, because the pleating process is strictly a mechanical process (unlike a crimping process), it is not difficult to perform the heat stabilization separately from the pleating. Because a crimping process requires some heat to effect the crimping, it is far more difficult and technically challenging to separate the heat bonding step from the crimping, and to perform the heat bonding subsequent to the crimping. Moreover, WO 00/66057 does not disclose a process in which the bonding is performed using a pattern of point bonds covering not more than 25% of an area of the nonwoven web.

Varona discloses a meltblown or spunbond system modified to form a nonwoven fabric having a pore size gradient (Abstract). The process uses a hot air manifold system to effect inter-fiber bonding as illustrated in the drawings. However, as shown in Fig. 8, the hot air manifold system and subsequent processing are employed to significantly reduce the loft of the nonwoven fabric instead of maintaining it. Varona does not disclose bonding already crimped fibers of a high loft, low density nonwoven web in a manner to substantially maintain its high loft using a pattern of point bonds covering not more than 25% of an area of the nonwoven web.

Accordingly, the combined references do not disclose or suggest Applicants' invention. This rejection should be withdrawn.

d) Claim Rejections Based On Several References Combined Together

The rejection of Claims 2-6 under 35 U.S.C. § 103(a) as obvious over Polanco in view of U.S. Patent 5,622,772 ("Stokes") is respectfully traversed. Again, this is a rejection under 35 U.S.C. § 103(a)/§ 102(e) and is improper as stated above. Polanco is not prior art. See 35 U.S.C. § 103(c).

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The rejection of Claims 2-6 under 35 U.S.C. § 103(a) as obvious over the combination of Terakawa, WO 00/66057, Varona and Stokes is respectfully traversed. Claims 2-6 depend from Claim 1 and are patentable for at least the same reasons (except that Claims 2 and 4 have been canceled). Furthermore, a large number of references have been combined without any basis for combining them. The rejection is based on improper hindsight. Also, Stokes does not fill the voids in the other references. For instance, Stokes does not disclose or suggest a process step of bonding already crimped fibers of a high loft, low density nonwoven web in a manner to substantially maintain its high loft using a pattern of point bonds covering not more than 25% of an area of the nonwoven web. This rejection should be withdrawn.

The rejection of Claims 9-13, 16 and 19 under 35 U.S.C. § 103(a) as obvious over Polanco in view of U.S. Publication 2002/0089079 ("Shelley") and U.S. Patent 6,072,005 ("Kobylivker") is respectfully traversed. Again, this is a rejection under 35 U.S.C. § 103(a)/§ 102(e) and is improper as stated above. Polanco is not prior art. See 35 U.S.C. § 103(c).

The rejection of Claims 9-13, 16 and 19 under 35 U.S.C. § 103(a) as obvious over the combination of Terakawa, WO 00/66057, Varona, Shelley and Kobylivker is respectfully traversed. These claims depend from Claim 1 and are patentable for at least the same reasons. Furthermore, a large number of references have been combined without any basis for combining them. The rejection is based on improper hindsight. Also, Shelley and Kobylivker do not fill the voids in the disclosures of the other references. For instance, neither Shelley nor Kobylivker discloses or suggests a process step of bonding already crimped fibers of a high loft, low density nonwoven web in a manner to substantially maintain its high loft using a pattern of point bonds covering not more than 25% of an area of the nonwoven web. This rejection should be withdrawn.

The rejection of Claims 64-67 under 35 U.S.C. § 103(a) as obvious over Polanco in view of U.S. Patent 6,379,136 ("Najour") is respectfully traversed. Again, this is a rejection under 35 U.S.C. § 103(a)/§ 102(e) and is improper as stated above. Polanco is not prior art. See 35 U.S.C. § 103(c).

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The rejection of Claims 64-67 under 35 U.S.C. § 103(a) as obvious over the combination of Terakawa, WO 00/66057, Varona and Najour is respectfully traversed. These claims depend from Claim 1 and are patentable for at least the same reasons. Furthermore, a large number of references have been combined without any basis for combining them. The rejection is based on improper hindsight. Also, Najour does not fill the voids in the disclosures of the other references. For instance, Najour does not disclose or suggest a process step of bonding already crimped fibers of a high loft, low density nonwoven web in a manner to substantially maintain its high loft using a pattern of point bonds covering not more than 25% of an area of the nonwoven web. This rejection should be withdrawn.

e) Claim Rejection Based On Double Patenting

The rejection of Claims 1-20 and 58-69 based on obviousness-type double patenting over Claims 1-25 of U.S. Patent Application 10/938,294 in view of WO 00/66057 is respectfully traversed. Enclosed herewith is a Terminal Disclaimer which prevents any patent issuing from the instant application from extending beyond the term of any patent issuing from U.S. Patent application 10/938,294. This rejection should be withdrawn.

f) Conclusion

Applicants believe the claims, as presented, are in condition for allowance. If the Examiner detects any unresolved issues, then Applicants' attorney requests a telephone call from the Examiner, and a telephone interview.

Respectfully submitted,

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